

Patent Claims

1. A control device (1) for controlling air flows in motor vehicles, comprising a frame having at least one
5 passage opening (4) and at least one controlling means, which is designed as a roller-type louver (5), for changing the passage cross section for the air flowing through the passage opening (4), characterized in that the frame comprises a housing (2) with at least two
10 hollow bodies (8) which are open along the longitudinal sides, the hollow bodies (8) accommodating the drive shaft (6) or the return shaft (7) for the roller-type louver (5), the hollow bodies (8) each having a pivotable cover (8.3) for opening the particular hollow
15 body (8).

2. The control device (1) as claimed in claim 1, characterized in that the pivotable cover (8.3) is connected to the hollow body (8.1) by means of a
20 moveable element (8.2).

3. The control device (1) as claimed in claim 2, characterized in that the moveable element (8.2) is designed as a film hinge.
25

4. The control device (1) as claimed in one of the preceding claims, characterized in that at least parts (8.1) of the hollow bodies (8) are integrally formed on the housing (2).
30

5. The control device (1) as claimed in one of the preceding claims, characterized in that the at least one passage opening (4) is arranged between the two hollow bodies (8).
35

6. The control device (1) as claimed in one of the preceding claims, characterized in that the roller-type

louver (5) is connected fixedly to the drive shaft (6).

7. The control device (1) as claimed in claim 6, characterized in that the drive shaft (6) comprises at least two parts (6.1 and 6.2), the roller-type louver (5) being clamped or welded between these two parts (6.1 and 6.2).

8. The control device (1) as claimed in claim 7, characterized in that the two parts (6.1 and 6.2) are connected to each other by means of clipping or locking.

9. The control device (1) as claimed in one of the preceding claims, characterized in that the housing (2) is closed laterally by a respective side part (3).

10. The control device (1) as claimed in one of the preceding claims, characterized in that the roller-type louver (5) is designed as an endless roller band (5) having openings or cutouts (5.1) for opening at the passage cross section (4).

11. The control device (1) as claimed in one of the preceding claims, characterized in that the roller band (5) is guided in two layers past the at least one passage opening (4), openings or cutouts (5.1) being distributed on the roller band (5) in such a manner that, when a passage opening (4) is closed, each layer (5.3, 5.4) of the roller band (5) covers approximately half of the passage opening (4), the passage opening (4) being opened by the two layers (5.3, 5.4) of the roller band (5) moving in opposite directions and opening up the passage opening (4) from the center outward.

12. The control device (1) as claimed in one of the

preceding claims, characterized in that edges (5.6) of openings or cutouts (5.1) of the roller band (5) are beveled.

5 13. The control device (1) as claimed in one of the preceding claims, characterized in that the at least one passage opening (4) is divided by lattice bars (4.2) into a plurality of apertures (4.1).

10 14. The control device (1) as claimed in one of the preceding claims, characterized in that the passage cross section can be enlarged from the center of an associated passage opening (4) outward on both sides and can be reduced in size from the outside to the
15 center on both sides.

15. The control device (1) as claimed in one of the preceding claims, characterized in that the drive shaft (6) is driven via Bowden cable or a flexible shaft.

20 16. The control device (1) as claimed in one of the preceding claims, characterized in that a servomotor for adjusting the drive shaft (6) is flanged onto the frame.

25 17. The control device (1) as claimed in claim 16, characterized in that the servomotor is arranged coaxially with the drive shaft (6).

30 18. The control device (1) as claimed in claim 16 or 17, characterized in that the servomotor is integrated into the drive shaft (6), which is designed as a hollow shaft.

35 19. The control device (1) as claimed in one of the preceding claims, characterized in that the frame comprises two passage openings (4), an air flow being

changed in each case by a change in the passage cross section of the particular passage opening (4).

20. The control device (1) as claimed in claim 19,
5 characterized in that, in a first starting position, a first passage opening (4) is completely opened and a second passage opening (4) is completely closed.

21. The control device (1) as claimed in claim 19 or
10 20, characterized in that, in a second starting position, the first passage opening (4) is completely closed and the second passage opening (4) is completely opened.

22. The control device (1) as claimed in one of
15 claims 19 to 21, characterized in that any desired passage cross sections for the particular passage opening (4) can be set between the first and the second starting position.

20
23. The control device (1) as claimed in claim 22, characterized in that, when the passage openings (4) are the same size, the sum of the passage cross sections of the two passage openings (4) always
25 produces the maximum possible passage cross section of a passage opening (4).

24. The control device (1) as claimed in one of the
preceding claims, characterized in that the frame
30 includes at least one supporting device (9) between two passage openings (4).

25. The control device (1) as claimed in claim 24,
characterized in that the at least one supporting
35 device (9) is connected, preferably releasably, to the two side parts (3).

26. The control device (1) as claimed in one of the preceding claims, characterized in that at least one bearing point (8.6) is provided in side walls (8.7) of the hollow body (8), in which the drive shaft (6) or
5 the return shaft (7) is mounted.

27. The control device (1) as claimed in claim 26, characterized in that the at least one bearing point (8.6) is of two-part design and in each case one part
10 is arranged in the upper part and one part in the lower part of the side wall (8.7) of the hollow body (8).

28. The control device (1) as claimed in claim 26, characterized in that the at least one bearing point
15 (8.6) is of single-part design and is arranged completely in the side wall (8.7) of the hollow body (8).

29. A heating or air conditioning system having a
20 control device (1) as claimed in one of the preceding claims 1 to 28.